

REMARKS

The present application contains claims 7-11, 13, 31-33 and 35-57. Claims 10, and 44 have been currently amended. Claims 55-57 have been currently added.

In a Form PTO-892 provided together with the office action, U.S. Patent No. 5,751,708 was inadvertently left out. In order to keep the file complete, applicants respectfully request correction of the PTO-892 form.

Claim 44 was objected to due to informalities. Applicants amended the claim by making explicit what was already implicit without changing the scope of the claim.

Claims 7-11, 13, 31-33, 35-37, 39, 40, 42-45 47-49 and 51-54 stand rejected under 35 U.S.C. §102(e) as being anticipated by Oba et al. (U.S. Patent No. 6,262,986). Claims 38, 41, 46 and 50 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Oba et al. (U.S. Patent No. 6,262,986) together with one or more other references. Applicants respectfully traverse the rejection.

For brevity, the following discussion is limited to the independent claims and to a few of the dependent claims which were rejected under 35 U.S.C. §102(e) based on Oba alone. The remaining claims are patentable at least because they depend on allowable claims.

Applicants note that each of the independent claims 31, 47, 52 and 57 of the present application refers specifically to the use of a remote access server (RAS). Oba does not teach a remote access server. Reference number 11 in Fig. 1 of Oba, to which the Examiner referred, is labeled "Packet Scheduling Apparatus", which is totally different from a RAS. The term RAS is well defined in the art and is clearly not a packet scheduling apparatus. Absent the remote access server element, applicants respectfully submit that the Examiner has not established a *prima facie* case of anticipation against any of the independent claims.

Furthermore, Oba, as well as most of the other references cited by the Examiner in this and previous office actions, does not relate to a RAS and therefore solves different problems than the present invention, using different methods than the claims of the present application. For example, Miller, Witchy, Nguyen and Oba relate to scheduling ATM cells, which is completely different from scheduling in a RAS. These references relate to re-ordering ATM cells on a communication link and do not relate to scheduling software-processes as in a RAS. Applicants respectfully submit that it would not be obvious to use methods of ATM in a RAS. The Examiner has not presented a *prima facie* case explaining why use of procedures presented for ATM links would be obvious for a RAS.

Following is a discussion explaining for some of the dependent claims and for new claims 55-57, why their specific limitations are not taught or suggested by the cited art. It is noted that one reason why these references do not describe the specific limitations of these claims is that they do not fulfill the basic requirement that they relate to a remote access server.

Claim 36 requires that the processing time of a connection does not affect the connection operation, provided the connection is processed within its respective cycle. In Oba, the scheduling performed relates directly to providing the packets on an output line (column 5, lines 10-12), and therefore always affects the connection operation.

Claim 42 requires scheduling in an order responsive to the time remaining until the end of the respective cycle of each of the connections. Oba teaches scheduling according to the lengths of the queues of the connections (column 9, lines 6-15), and not the remaining time to the end of a cycle.

Claim 43 requires scheduling in an order determined responsive to the relative values of the quality of service levels when the time remaining until the end of the respective cycle is substantially the same for a plurality of connections. This is not taught or suggested by Oba. The passage related to by the Examiner (column 1, lines 41-55) relates to the need to meet the timing requirements of connections and does not relate at all to using QoS levels for scheduling or to determining the order of scheduling.

Claim 10 was amended to make explicit that the processor waits although one or more connections has data for handling. Claim 10 requires having the processor wait without handling data from any of the connections if all the connections were scheduled for handling during their respective current cycles. Oba continues to perform scheduling until all the queues are empty regardless of the cycle times of the connections (e.g., col. 17, lines 56-63).

New dependent claim 55 requires that the scheduling order be determined in two stages, a first stage responsive to the cycle schemes and without relation to the QoS levels and a second stage responsive to the QoS levels. Claim 55 finds support at least on page 13, line 31 – page 14, line 8 and page 2, lines 21-31.

Oba relates to quality of service (QoS) in two passages. On column 1, lines 41-55, Oba does not use the term QoS to refer to levels assigned to connections, but rather uses the term QoS to state the general importance of meeting the QoS guaranteed to connections. Therefore, this passage of Oba does not teach or suggest determining QoS levels of connections or scheduling responsive to relative values of determined QoS levels, as required by claim 31.

Oba further relates to QoS in the ninth embodiment shown in Fig. 13, as mentioned on column 17, lines 36-47. According to this embodiment, packets are first inserted into queues according to their QoS levels and then are extracted from the queues according to timing constraints.

In contrast, in claim 55 the scheduling order determination is required to first relate to the timing and only afterwards to relate to the QoS level. This order is not taught or suggested by Oba.

Claim 56 adds similar limitations to those presented in claim 55 to independent claim 47 and adds patentability thereto, for similar reasons.

Claim 57 is an amended form of claim 52, which was amended to clarify that the claim relates to adjusting the order of the scheduling responsive to a change in the QoS level of one or more of the connections. Claim 57 has a scope similar, if not identical, to claim 52.

Claim 57 requires changing the quality of service level of at least one of the connections and scheduling the processor to process data from the plurality of connections in an order adjusted responsive to the change in the quality of service level.

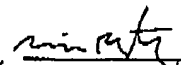
Oba does not teach or suggest scheduling connections in an order adjusted responsive to a change in the QoS level. Column 15, lines 15-19, referred to by the Examiner, relates to a change in the weights of the connections and not to a change in their QoS level. The above mentioned passages of Oba that relate to QoS do not mention any possibility of a change in the QoS level of a connection.

As some of the issues discussed above are relatively complex, applicants suggest that these issues be resolved in a telephone conversation with the undersigned. If the Examiner is of the opinion that such a telephone conversation may forward the present application toward allowance, applicants respectfully request that the Examiner call the undersigned at 1 (877) 428-5468. Please note that this is a direct *toll free* number in the US that is answered in the undersigned's Israel office. Israel is 7 hours ahead of Washington. Our normal work week is Sunday through Thursday.

In view of the above remarks, applicant submits that the claims are patentable over the prior art. Allowance of the application is respectfully awaited.

Respectfully submitted,
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